ON TEST
AXIS – AXIS 211
GENIE CCTV – NC300
PANASONIC – WV-NP244E
SAMSUNG ELECTRONICS – SNC-B2315P
SAMSUNG TECHWIN – SNC-570P
SIEMENS – CCIC1410

New to networking?

Virtually every camera range available includes an IP-based network option, and as development pushes these units forward, so the 'older' versions are becoming 'entry level' options, both in terms of price and performance. Do these cameras fill a need, or are they just old stock being cleared out?

Things in the security industry have changed dramatically in the past 18 months since Benchmark last looked at IP cameras. Back then, most of the models here (or their predecessors) would have been considered as high end units. Today the industry is awash with megapixel and HD cameras, and features such as built-in analytics are all the rage. Development of this kind is good in two ways. Firstly, it ensures that the capabilities of the CCTV sector are always advancing. Secondly, it means that what was the cutting edge very recently is now entry-level!

Too often, people think that the term 'entry level' implies something bad, as if the products are somehow less than the full shilling. It's interesting that a lot of manufacturers don't like their products described as such, feeling that it implies the device can't compete. However, that isn't the case.

Entry level products have to be simple to set-up, and deliver a good price/performance ratio. With regard to features and functions, they have to be up to the job. Maybe the unit's won't have all the bells and whistles that top-of-the-range products have, but they also don't have the cost either.

It's interesting to note that often the best entry-level products are those that started out as cutting-edge units. These will therefore have all the benefits with regard to configuration and set-up, having been the first generation of bigger and better products.

The thing with IP cameras is that they have to be able to at least match what composite cameras offer, or there's just no reason to move for many installers.

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Benchmark ratings

PRODUCT	Axis 211	Genie NC300	Panasonic WV-NP244E	Samsung Elec SNC-B2315P	Samsung Tech SNC-570P	Siemens CCIC1410
PRODUCT DESIGN	8/10	8/10	8/10	9/10	9/10	8/10
EASE OF INSTALLATION	8/10	7.5/10	7/10	8/10	9/10	7/10
FEATURES AND FUNCTIONS	8/10	7.5/10	8/10	9/10	9/10	7.5/10
VIDEO QUALITY	8/10	8/10	8/10	9/10	9/10	8/10
OVERALL RATING	8/10	7.75/10	7.87/10	8.87/10	9/10	7.63/10
BENCHMARK RECOMMENDED	✓			✓	✓	
CONTACT:	Tel: 01462 427910 www.axis.com	Tel: 01707 330541 www.geniecctv.com	Tel: 01344 853940 pss.panasonic.eu	Tel: 01932 455455 www.samsungsecurity.com	Tel: 01932 455308 www.samsungcctv.com	Tel: 0871 386 0800 www.buildingtechnologies.siemens.co.uk/securityproducts/

Benchmark test results

To identify products quickly and easily, always mention Benchmark when contacting suppliers and manufacturers.

It is important to remember that IP-enabled cameras, as with cameras that utilise coaxial or unshielded twisted pair connections, should be primarily judged as cameras. The fact an IP-enabled network is used to transmit and manage the images is not relevant.

Alongside image quality, stable operation and functionality are considerations, as is ease of configuration. Remember that these units are meant to be security cameras, not challenges in network design and implementation.

All of the camera tests were carried out simultaneously, and all used the same network which had no other traffic. The lenses used for all cameras (excluding the Siemens unit which has an integral lens) were also the same - in this case the HG3Z4512FCS-IR from Computar (see separate panel for more details).

The goal – as usual – was to assess how the cameras performed in the real world.

Installation

The **Axis 211** is an established unit in the IP-based CCTV sector. The camera has been around for a few years now, and whilst it does lag behind the technology and performance available from newer Axis models, it still represents a cost-effective entry level to video over IP.

Image resolution is VGA (640 x 480). This is common with many 'entry level' IP cameras, although units launched by CCTV manufacturers do seem to favour 4CIF resolution (704 x 576). However, when the Axis VGA image is viewed in a PC browser, it does the job.

The camera is a network-only unit, so there is no composite output. It provides VGA images in real-time, and offers two simultaneous video streams using MPEG-4 and Motion-JPEG compression. The camera features alarm inputs and outputs, and power is 12V DC with a PSU transformer supplied. It can also utilise PoE.

Axis Axis 21

⊕ Simple to set-up and use for IP newcomers

⊖ VGA resolution, plus a lack of a paper manual

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Genie CCTV NC300

- ⊕ A set-up that removes the need for IP knowledge
- ⊖ Restricted customisation of network settings

Panasonic WV-NP244E

- ⊕ Good quality for an entry level package
- ⊖ Set-up is hindered as there's no Quick Start guide

There are a few ways to configure the 211. The simplest method (and the one recommended by Axis) is to use the Axis Utility, supplied on the CD. Connect the camera, then run the utility. This finds the camera, and you can then tweak the network settings. Restart the camera, and then simply browse to the relevant IP address via your web browser. Once the Active X element is loaded, the video can be viewed and camera set-up completed.

The camera comes with a quickstart guide, but as with too many IP cameras, the full manual is on a CD, and so will need to printed out prior to use.

Genie CCTV has recently launched the **NC300**, and bills the camera as 'Self Networking'. The camera delivers D1 resolution in real-time, and bandwidth can also be throttled to ensure performance if numerous cameras are being used. The camera is a hybrid model, supporting both IP-based network and composite video outputs.

The camera uses MPEG-4 for streaming video, although it also supports snapshot grabbing in JPEG format. Other features include a wide range of CCTV settings to allow site-specific set-up.

The camera's power is 12V DC and the connection is a modular socket. However, no PSU is supplied. This means you will have to buy a PSU that matches the unit. It does not support PoE.

With the Genie NC300, you connect up the camera as normal, and then run the accompanying CD. It doesn't autorun; you need to navigate to the installer and launch it. This installs Genie View and if the Microsoft .NET Framework is below 2.0, it upgrades this.

Once GenieView is running, you select Camera List and choose New Camera. You then need to enter a camera ID and a password, which are supplied on a card with the camera.

If you then want to allocate it a specific IP address, you need to log into the camera's web page, set the address, log out, delete the camera and repeat the New Camera process. It's easy to use if you don't need to know the IP address, otherwise it's a slower process.

The NC300 is a different beast when it comes to IP cameras. It really is aimed at the smaller systems, for installers who don't have the knowledge to support fully blown IP systems. As such, it does offer an alternative.

The **WVNP244** is a **Panasonic** network-only camera; it does have a composite output, but it's a phono jack and to our thinking such connections are only used to test monitors. Panasonic's iPro range has a wide variety of cameras including some very impressive high end units, but this model is very much an entry-level unit.

The camera delivers a VGA image in real-time with MPEG-4 for streaming video; there is also an option for a second JPEG format stream, but when used simultaneously there may be some frame-rate drop on the JPEG stream. Other features include alarm inputs and outputs, plus support for an SD card. Power is 12V DC or 24V AC. The camera does support PoE.

Unfortunately, the WVNP244 does not come with any instructions. Instead, you get a very basic manual on the CD, along with viewer software and an IP configuration utility.

Due to the lack of a guide, we simply connected up the camera and entered the default IP address (a sticker on the camera gave it as 192.168.0.13), and the camera's web page popped up, telling us to load the viewer software!

The software installed on the PC, but couldn't find it to start the program. Eventually we realised that we should log in to the camera through the browser again, and sure enough, the image appeared. However, as minor as this delay was, a quick start guide would have made things simpler, and can imagine some being frustrated by this.

The configuration utility allows you to quickly set the network details; again, Panasonic doesn't tell you this; you find it out by feeling your way around!

TEST EQUIPMENT

Computar HG3Z54512FCS-IR

The HG3Z4512FCS-IR is a 1/2 inch format varifocal auto-iris lens with a focal range of 4.5-12.5mm. The aperture ratio is 1:1.2. The Iris range is F1.2-F360, and focus is 0.3m-infinity. The lens is IR-corrected to allow for day/night use. Varifocal lenses offer maximum flexibility as they can be adjusted to match the scene. Computar offer a large range of varifocal lenses from a 1.8mm (almost fish eye) to 50mm for close up views. Traditional varifocal lens are available with the added benefits of IR correction. These lenses are manufactured with a special glass and lens coating. This combination allows the lens to deliver perfect focus under normal lighting and also under IR illumination. Computar's range of varifocal lenses offers a wide choice to match a wide range of applications.

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Samsung Electronics SNC-B2315P
- ⊕ A wide range of features and functions
- ⊖ Set-up could be slightly faster

Samsung Techwin SNC-570P
- ⊕ High performance and ease of set-up
- ⊖ Supplied with a European power lead

Siemens CCIC1410
- ⊕ Simple to set up this basic camera
- ⊖ The manual does not give you the default log-in details

Samsung Electronics offers the **SNCB2315P**, a hybrid CCTV camera which is part of the company's Net-i range. The camera delivers D1 resolution video at real-time. The camera can deliver dual streams of MPEG-4 and M-JPEG video. It also boasts bi-directional audio, alarm inputs and outputs, and can take an SD or SDHC portable media card for basic localised storage.

Whilst the majority of cameras don't include full manuals, the Samsung Electronics unit does, and for that many installers will be grateful. It's a multi-language job, and contains everything you need.

The camera is powered by 12V DC/24V AC, and PoE is also supported.

It is supplied with a utility called IP Installer; all you need to do is connect up the camera and run the utility. It will launch off the CD and doesn't have to be installed on the PC to work. Once the utility is started, it will search for the camera and display its details. You then have the option to set the network configuration automatically or manually, the latter being our preferred choice as we like to decide what every device's IP address is.

Once you have set the camera up, you can either navigate to it via the browser to configure the CCTV settings, or simply double-click on its description to open it up immediately. The browser will prompt you to install the Active X control; just select the install option, and the video image will appear in seconds.

The Samsung Electronics camera has been designed to be easy to work with, and most installers will find the configuration process pretty straightforward.

Samsung Techwin's **SNC570P** is a hybrid camera that delivers resolutions up to D1 in real-time. A part of the iPolis range, it is bristling with CCTV functionality, and is every inch a CCTV camera with networking included. It also includes some additional functionality such as alarm inputs and outputs, two-way audio and support for an SD (up to 2GB) or SDHC (up to 4GB) memory cards. Another bonus is the inclusion of basic video analytics rules.

The camera uses a dual-codec to deliver MPEG-4 and JPEG streams.

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Configuration of the SNC570P is kept as simple as possible. The camera is shipped with a factory default IP address of 192.168.1.100. This means that all you need to do is connect the camera, log in via a browser to the address, and sign in to the camera. It is then possible to change the network details as required. If you are not using a private network (192.168.x.x), you will need to connect directly to a PC or laptop in the same network segment to change the details.

The camera is supplied with a proper paper manual, and that at least shows some commitment towards helping installers. It does come with a CD, which includes the Samsung Network Manager software. This package supports up to 64 networked devices, and can be used to manage their network connectivity, as well as for live viewing and DVR management.

The SNC570P delivers a high level of connectivity and flexibility, but with that in mind, it's not a difficult camera to work with.

Finally, the **CCIC1410** from **Siemens** is another simple to install unit, in the style of the Genie CCTV unit. The unit features a 1/4 inch CCD to deliver a VGA resolution image. Images can be streamed at up to real time, and simultaneous streams of Motion JPEG and MPEG-4 video are available.

The unit supports wireless network connectivity, as well as wired. The camera itself is a small compact device, and has a button on the front of the camera marked with a P. This is a privacy button, and allows someone at the camera location to disable video and audio for privacy reasons. This can be switched off in the configurations, but does highlight that this unit is not solely aimed at security applications.

The camera is powered by a modular PSU, and herein lies the first source of irritation. The transformer element is moulded into the plug, which is a European variant. Therefore you will need to source a compatible UK PSU; it's a bit annoying when you've already paid for one!

The camera is provided with a very brief quick start guide, and two CDs. One contains the Installation Wizard, which needs to be loaded onto the PC. With this, you can connect to the camera, which then requires a log in and password. This means you have to change CDs and look at the on-line manual.

Now, to save you a hell of a lot of time, the 90 odd pages of on-line manual that you have to look through state that password protection is advised, but is not configured on the camera when new. This is wrong; it is configured. The manuals don't give any technical support details, and the Siemens web-site has an e-mail form that you need to fill out for technical support. It's a serious issue if you only discover the need for a password when you are on site.

Once you have the appropriate log in details, the rest of the set-up is straightforward.

Performance

Despite the **Axis 211** delivering a VGA image, on a PC screen it certainly looks clean enough and has enough detail to be usable. Colours are good, and there is certainly a fair degree of accuracy when it comes to both colour and greyscale rendition.

Images are sharp, and even fast motion doesn't seem to phase the camera when in MPEG-4 mode. That the camera is pushing its processing power with regard to image replication is only obvious when you try to raise all the settings to maximum in the M-JPEG mode. If you remember what this camera is – an entry level model – then you can forgive it this one minor issue.

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There is a slight degree of latency, but it's not bad enough to create serious problems. Image rebuild times are good, and even with bandwidth conservation in place, the image still stands up pretty well.

Genie CCTV's **NC300** does deliver a D1 image of sorts. Our test unit seemed to default to NTSC settings, in that the highest available resolution was 720 x 480. That said, the image was presented properly. The colours are accurate and everything seems in order.

We then tried to see why the camera would not offer a 720 x 576 resolution. It was connected to a PAL CRT monitor, and whilst the image was displayed correctly, it still only offered 720 x 480 on the network. A reset didn't help, but it did reset the camera's password, which meant we could no longer access it!

We wasted another 15 minutes messing around with the camera until we found out how to log in and reset the parameters without a password! This is possible if the operator password on the viewing software isn't enabled.

In the end, we settled for a 720 x 480 image, which isn't D1. The final image quality was usable, slightly grainy and biased towards reds (this was not an issue on the CRT), and latency is obvious. However, the odd software glitches take the shine off what could otherwise be a very good entry level device.

The **WVNP244** from **Panasonic** is limited to VGA resolution, although the image is certainly more than usable. As you would expect from a Panasonic camera, colour fidelity is good, and greyscales are accurately represented.

As light levels fall, the camera copes well. However, AGC is locked on, so that's to be expected. It doesn't get noisy until light levels fall significantly, and the quoted figure of 1.5 lux is about right.

At the 'Fine' image quality setting, the image is clean and detail is obvious. There are slight signs of digitisation at the 'Normal' setting, and 'Low' is a pretty apt description of image quality. It's usable, but you'd need to have serious bandwidth constraints to want to use it permanently!

VMD and backlight compensation work as expected; they are basic, but as an entry-level camera the performance is on a par with competitive models.

Samsung Electronics has created a genuine CCTV tool in the **SNCB2315P**. It is a security device which happens to be networkable, and

for many installers that will be what they are looking for. The camera delivers a D1 resolution image, with clear and sharp detail. Colour fidelity is high, as is greyscale accuracy.

At D1 resolution, the camera manages just below real-time, dropping to between 20 and 24fps. Unless the scene contains consistent motion, you're unlikely to notice this. There are five quality settings, although to be honest the 'Very Low' setting isn't good enough.

Day/Night performance is as expected, and the wide dynamic range works well, ensuring a fairly consistent level of detail in dark and bright areas. Motion detection is as basic as you'd get on a typical CCTV camera, and that's what the SNCB2315P is. For the cost, the camera packs a real punch and won't disappoint.

Samsung Techwin's **SNC570P** has a fair bit in common with the unit from the Electronics side of the business. This is primarily a CCTV camera that offers network connectivity. The features and functions are akin to those found

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on Samsung Techwin's award-winning CCTV cameras, and this is bound to boost the popularity of these units.

Image resolution is a genuine D1, and it delivers a real-time stream, only dropping below 25fps on occasions. Colours are strong and accurate, and greyscale fidelity is very high. There is no bias towards warm or cool tones, and the picture is well balanced.

The camera's functionality is very good, and the unit even includes the now well respected SSNR noise reduction technology, which works very well. Other features such as DIS, WDR, sens-up and AGC with selectable levels make this a camera able to perform in a very wide range of circumstances, and given the cost, it really does make networked CCTV an attractive alternative.

The **CCIC1410** from **Siemens** is, when all is said and done, probably more suited to being an add-on device; there's nothing wrong with that, but with slightly limited functionality, it is more for general observation than high-end surveillance. If you are looking for a surveillance tool, Siemens does have alternative cameras.

The CCIC1410 delivers an image resolution of 640 x 480 (VGA), and the quality is more than acceptable. It lacks the sharpness of some of the other cameras, but it is supplied with a fixed 4.1mm F2.0 lens.

Colour fidelity is good, and greyscale accuracy is only lost between 90 and 100 per cent tones. Detail is retained until light levels fall significantly.

The camera does feature alarm inputs/outputs and an integral microphone, and as such presents a flexible alternative.

In Summary

Axis Communications' Axis 211 is a well established camera, and despite lacking some technologies as exhibited in the latest range from the manufacturer, the 211 still is a very capable and worthwhile performer. Given that the new technologies have driven prices down, it represents value for money.

The **Genie CCTV NC300** has been very much designed to be an entry-level offering for those that need to put cameras on a network, but don't want (or need) to be more involved. It's not going to be used for large projects or complex solutions, but it does offer a solution for those seeking one or two cameras on a standard network.

There is an issue with the camera not delivering 720 x 576 pixel images, but it's a software glitch and we would expect Genie to be on the case as you read this. It was trying to gain full resolution that led to our set-up problems, so a single fix would cure all ills! If they do correct it, we'll let you know, and upgrade the camera's score.

Panasonic's **WV-NP244E** comes from the iPro range, which isn't a bad heritage to have. Essentially, the camera works well, but the lack of any quick start guide means you can waste a bit of time trying to work things out before you get used to the camera. Again, the ball is in the manufacturer's court; we'll let you know if we hear anything from them.

Samsung Electronics has done a good job with the **SNC-B2315P**, and has created a true hybrid camera that delivers with regard to both performance and functionality. That it also has a proper manual and recording software included is a benefit.

Samsung Techwin's **SNC-570P** is another genuine CCTV product. The hybrid camera delivers high levels of performance, is simple to set-up, and includes a proper manual and recording software. It's not often that products achieve Outstanding status in Benchmark; in over three years, only seven other products have managed it.

Siemens' CCIC1410 is a decent camera for the right applications. Sadly, a European PSU and no mention in the manual about the default password cost it marks. If Siemens changes the PSU and corrects the manual, we'll let you know and will reassess the camera's final score.

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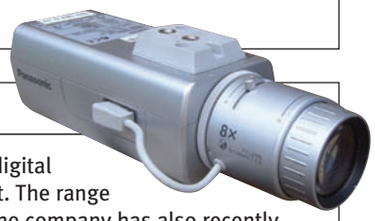
Axis Communications

Axis Communications is a dedicated manufacturer of network video products and a leading independent provider of print servers. Axis has been developing solutions that add value to networks since 1984, and now specialises in network video solutions. Axis is listed on the Nordic List, Mid Cap, Information Technology and operates globally with offices in 17 countries and in cooperation with distributors and partners in 70 countries.

Genie CCTV

Genie CCTV specialises in the supply of security equipment. Founded in 2001, the company has seen continuous growth. Recently, Genie moved to a new corporate headquarters, which incorporates a state of the art showroom and technical training facility. It has recently expanded its product range and offers a diverse series of systems to installers, all fully backed up by in-house technical resources.

Panasonic



Panasonic manufactures a wide range of CCTV products including static and dome cameras, digital recording and matrix systems, iris recognition as well as a vast array of IP network equipment. The range extends to provide a full system or solution, which can be controlled by front end software. The company has also recently won the PSI Premier Award for Customer Care due to its industry-leading support and service offering, which starts from the specification all the way through to commissioning and maintaining the system.

Samsung Electronics

The vision of Samsung Electronics is to lead the digital convergence revolution. It sees the future as having two elements; the first is about producing products that inspire digital integration. The second part is to use e-processes connecting R&D, production and marketing to customers, partners and the approach to every part of the supply chain, including products data and customer relationship.

Samsung Techwin

Samsung Techwin is one of two Samsung divisions that are active in the UK CCTV market-place. Techwin is the industrial side of the business and currently provides a very wide range of CCTV products including award-winning CCTV cameras and the much acclaimed SSNR noise reduction system. The company has over 4,000 employees, and alongside CCTV is active in digital imaging, defence, semi-conductor manufacture, aircraft design and turbo-machinery.

Siemens

The Building Technologies group of Siemens was created on October 1 1998, through integration of the industrial sector of the former Elektrowatt-Group with the building technologies activities of Siemens AG. As part of the move Cerberus, Landis and Staefa and Siemens were consolidated into one organisation. The core of the security group came from the former Alarmcom business, and has been further developed with the addition of Bewator. Siemens has a dedicated UK operation, and has a team which focuses on the electronic security industry.